

## **Mechanical Electron Noise**

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There have recently been impressive advances in the fabrication of miniature mechanical oscillators. These are ideally suited to study the coupling of electrical and mechanical degrees of freedom. Electrons in a metal collide with impurities and thereby exert a fluctuating force on the lattice. In equilibrium this electromechanical force can not be distinguished from other sources of thermal noise. Might it be measurable out of equilibrium by driving a current through a nanoscale oscillator? The answer to this question involves a delicate balance of forces.